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ABSTRACT

Institutional research (IR) in community/junior colleges in past years has been limited to gathering data for external agencies, concentrating on raw demographic data and student flow studies. IR should be directed toward providing data for administrative decisions and for successful maintenance of college operations. In spite of the heavy demands of state agencies and administrators, IR directors should consider their broader audiences in the education field. By careful reconsideration of methodology and theoretical bases, they could put more rigor into their studies. Better studies would be facilitated by organizing college records for easier computer cross tabulation, by pretesting survey instruments on members of the sample pool, and by selected population sampling. Concentrated effort on a carefully chosen population should result in an 80 percent return, and these results are more valid than those obtained by flooding the mails with questionnaires. Given the well-documented demographic changes in two-year college populations, the IR director has the opportunity to research how the college might change to meet the needs of these new students, how the students' learning sytles can be accommodated, etc. He has the ability to translate vague college goals and student aspirations into useful designs for study. (MJK)

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ADAPTING INSTITUTIONAL RESEARCH TO CHANGING STUDENT POPULATIONS

by

Arthur M. Cohen

A presentation to the annual meeting
of the Southeast Region, AERA Special
Interest Group in Community College Research
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Boone, North Carolina

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University of California
Los Angeles

JC 750 426

Adapting Institutional Research to Changing Student Populations

by

Arthur M. Cohen

It is fitting that I speak to a group of two-year college institutional researchers on implications of changed student populations. The ERIC Clearinghouse for Junior Colleges, which I have directed since 1966, has always had a major interest in two-year college institutional research. The original proposal for the Clearinghouse named IR documents as a primary source of input; these ephemera had never been cataloged and we felt much useful information could be gained from them. From time to time institutional researchers have been on the ERIC advisory board and have occupied staff positions in the Clearinghouse. They have also written for our various publications series and have made use of the ERIC system through search requests. The Clearinghouse made the initial request to AERA for a Special Interest Group in Junior College Research. Our links are strong.

A review of titles in the ERIC publications series shows many are pointed directly toward institutional research. Without attempting to name them all, I want to mention particularly Topical Paper #30 entitled, "The Practitioner Views Institutional Research," published in February 1972 and now out of print but available through ERIC Document Reproduction Service, ED 059 718. It should be on every researcher's shelf. We have also had articles on research printed in the Community College column in Change magazine; Ben Gold's "The Administrator and Institutional Research," May 1973, stands out. The ERIC Junior College Research Review, printed monthly from 1968 through 1972 included numerous issues on IR. Titles such as "Needed Research in the Junior College" (April 1968), "Trends and Developments in Institutional Research" (April 1972), and "Trends in the Study of Junior Colleges: 1970" (September 1970), are especially pertinent. All these documents are available through EDRS and we can furnish order numbers readily.

The two-year college institutional researcher should familiarize himself thoroughly with the ERIC system. The numerous studies that have been prepared by research officers and put into the collection provide an invaluable source for topics, designs, methodologies, strategies, and the like. You have received copies of abstracts of a few of them. Since these documents have been prepared by your counterparts at other institutions--and undoubtedly some of them have been input by those of you here--they show the range of what can be done. The Clearinghouse is a basic and continuing resource for the IR Director. It does more--it offers researchers a critical review of their products, accepting only those that seem to warrant widespread distribution by virtue of their sound methodology, their grounding in theory, or their presentation of data of interest to the broader community of educators.

My remarks here fall into three categories: the character of two-year college institutional research past and present; changed student populations in the colleges; and useful topics and designs for studying

the new students.

As a way of beginning a discussion of the implications of changed student populations on institutional research, I would like you to note on one of the cards provided, the project you have most recently completed or one in which you are deeply engaged at the present time. Spell out in a brief phrase the problem, the theory or conceptualization within which you are working, the design, the instrumentation, and a general statement of the methodology.

Before reviewing the topics and methodologies you have submitted I should note what they might have been if this meeting had been held five or six years ago. In so doing I can quote from the Junior College Research Review of April 1969: "Institutional research deserves special comment. Although a sizeable minority of the institutions have a person charged with the conduct of research, his efforts are usually directed toward writing proposals for extramural funding or toward gathering data of use in planning facilities and public relations releases. Most research reports involve the checking of records in order to obtain demographic data about students. Frequently, uncontrolled follow-up will be conducted using homemade designs in an effort to determine numbers of students who transfer to four-year institutions, obtain jobs, and so on. Few actual experiments are conducted, even though where they have been, programs based on their findings have been carefully conducted.

"Junior college research may be summed in one word--it is inchoate. An intellective curiosity or skepticism regarding modes of organization, results, or effects of instructional programs is not revealed in the reports processed at the Clearinghouse. The audience for indigenous research is the administration and occasionally the faculty of single institutions. It is not likely that topics treated by--or the methodology of--junior college researchers will change until it is beamed at a wider, more critical audience. Avenues of dissemination are not lacking, but realization of the value of, and the need for, substantive writing is."

In brief we found institutional research to be concerned excessively with studying student flow--where they came from, where they went. The designs were incredibly simplistic; the research question was usually something in the order of, "Where do our students come from?" or "Where do they go after they leave us?" The methodology was to collect information from student records. New data were not generated. If they were, a homemade instrument asking such questions as, "Do you now have a job?" and "Did the college help you learn all that was needed to function in your job?" was used. Most distressing from a methodological standpoint, population sampling was not undertaken; the investigator would merely round up as many subjects as were available from the target population and take what responses he could get without attempting to weight for categories of non-respondents and without attempting to tease out more responses than he could obtain from a self-selected, volunteer audience.

Many documents coming in to the Clearinghouse still are based on student data. We get many traditional follow-ups of transfer students reporting grade point averages earned by the institution's transfers to local

four-year institutions. But we have seen a drift toward questions related to career education: the types of jobs available in the local community; a community survey of employers; and follow-up of students to determine if they are working and if so, in what kinds of jobs. These are certainly useful to many segments of the college community but, and this an important qualifier, most of the studies emanating from the institutions still suffer from the limitations in methodology noted.

A second category of IR studies has become prominent. These relate to information supplied to external agencies. They have come about because of the demands of affirmative action and because other types of governmental directives require institutional data. State-level agencies particularly have been voracious in their consumption of institutional information. We see studies of room use, financial aids, faculty load, expenditures by program--all created for state offices. Much of it is too parochial for a general audience but it has become prevalent.

By definition institutional research is problem oriented--directed toward the problems pertinent to a single institution. Some type of institutional improvement is presumed to be the anticipated outcome; therefore the demands of external auditors for an increasing flow of data, although they must be accommodated, draw the researcher's attention and energies away from what should be his primary pursuit. Institutional research is--or should be--directed toward providing data or useful or necessary in making administrative decisions and for successful maintenance of college operations. It is sometimes called applied operations research because, at its best, this is what it is.

In his Change article (May 1973) Ben Gold describes the general purposes of institutional research as providing objective current evidence on how well the college is doing in its various operational areas, and as the furnishing of information to faculty and administrators so that policy decisions and implementation can be based on current and reliable data. He sees the specific responsibilities of the IR Director as:

> exploring areas of needed research and recommending priorities for research efforts;
> stimulating and coordinating institutional information collection and acting as a consultant for others on the campus who are collecting it;
> maintaining a library of research materials;
> recommending regular procedures for gathering and storing needed information;
> designing procedures for disseminating information to appropriate groups;
> conducting research studies as suggested by the chairman of the college's research advisory committee;
> sharing information with colleagues in other institutions.

Elsewhere Gold (1972) elaborates on these functions saying that the research director should evaluate programs and procedures, make follow-up studies,

measure student and/or faculty opinion, survey community needs and attitudes, provide research assistance to the classroom instructor, provide information for proposal writing and accreditation, and act as a clearinghouse for questionnaires. Paul Elsner (1972) also discusses the research director's responsibility in providing information useful in assessing the allocation of resources, assessing student potential and student achievement, analyzing curriculum and program needs and priorities, and assessing the college's impact on the community.

This is a tall order, a very tall order. The plethora of functions that have been described are in total impossible for a single IR Director to achieve. One person can organize and conduct only so many studies at a time. A community needs survey alone can take up an entire year from design to interpretation. A properly conducted student opinion or aptitude survey takes several months. Regardless of the assistance that an IR Director can obtain, he still can do only so much. And unfortunately a Gresham's Law operates in two-year college institutional research as it does in so many other areas of life. The soft coin of filling out questionnaires drives out the hard currency of experimentation. One can spend literally all his time--and legitimately so--simply providing data to external agencies. In fact, providing state agencies with such quantities of raw data that they become indigestible has become somewhat of a joke among two-year college researchers. As one director mentioned at a meeting not long ago, "Give them so much data that they choke on it. Then they will stop asking you for more!" But there is no evidence that they stop. State agencies are like Hydras--if one chokes on the mass of data that you shove into its maw, two others spring up by its side.

Accordingly, I do not propose to suggest additional activities to add to your already formidable burden. You have many masters to satisfy and all of them are much closer to you than is the broader community of educational scholars as addressed through the ERIC Clearinghouse for Junior Colleges. You may well want to make your contribution to knowledge about the functioning of two-year colleges in America by conducting a carefully controlled experiment or a rigorously designed survey. But when your president calls saying that he needs data on student desires for a proposed program in Arc Welding for Artists so that he can respond to a trustee at tomorrow night's board meeting, I have no doubt about which project is going to seize your immediate attention. Therefore I must regrettably deny myself the luxury of admonishing you to conduct experiments in student learning. Long a favorite topic of mine, I find that it has provided a tiny but steady trickle of documents over the years. Those who see the value of these studies--and who can fend off more pressing demands--produce them. Otherwise they do not happen.

Nevertheless I can make a plea for more rigor in the studies that you do. Careful methodology, instrument design, population sampling, data collection and analysis, do not really add to your burden. Quite the contrary--a well-designed study is in fact, <u>easier</u> to conduct. Take the matter of population sampling alone. If the entire population of students who have taken a full course load at your college during the past three years is, say, 1000, you can save time and energy by pulling a careful sample and surveying just that number. Sending 1000 surveys

takes considerable effort. Accepting the 150-200 that come back as representative of the population is both careless and naive. Much better to draw a carefully stratified or random sample of 5%--50 subjects--and then bend all effort to get them to respond. Using this method you may well expect 40 responses--an 80% return rate, one that is considerably more useful than the 15 to 20% that you can get by the first named method. And it takes no more time.

Instrumentation is another place that institutional research can be considerably tightened. Running off a set of questions that may well be vague or contradictory contributes to the poor response rate typically obtained in community surveys. Much better to pretest a questionnaire repeatedly using as subjects for the test small samples of the population to whom the instrument is to be addressed. It is amazing how a question that seems so obvious and straightforward to you will be hopelessly confusing to a lay person. Great dividends can be obtained through modest expenditures of time before the survey form is printed for general distribution.

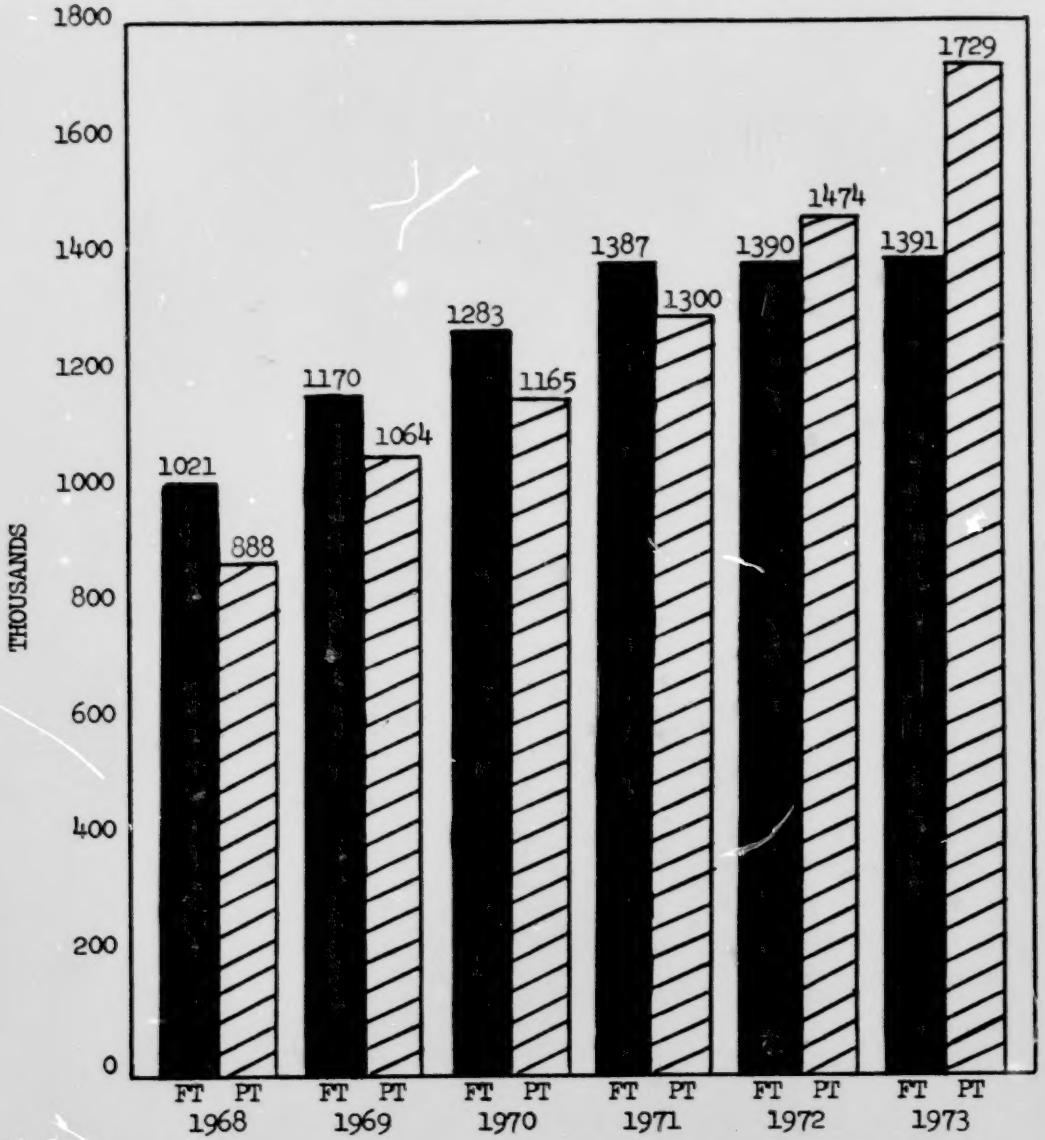
Similarly, in the matter of record checking, the IR director is well advised to spend his time organizing procedures for automatic printout of all pertinent information from student records. Cross tabulations are easily arranged when the data file is properly organized. With the level of sophistication of computer technology available to you in your own institution or in a contract agency close at hand, there is simply no excuse for a research director's going through student folders manually each time a request for information of one type or another comes in. Yet some still do.

The conference theme is on changing student populations. Even though we have much data on trends nationwide, any researcher will find variation in his own institution. Nevertheless we know certain general characteristics. The age of the average student is now nearly 28 years. This is a phenomenal shift from an average age near 22 only three or four years ago. There is an increasing number of women enrolling. Once rising enrollments in minority students have apparently stabilized and in 1974-75 there has been no increase. More students now are married. The ratio of part-time to full-time students has gone up and in many institutions now the average student takes fewer than 8 units. A concomitant increase in "unclassified" students--as compared to transfer or occupational--has taken place. This has been accompanied by a relative decrease in the number of sophomores. (See graphs).

Several general questions seem to be suggested by these data. How does age affect learning abilities, motivations, goals? What has been the impact of these changes on traditional college courses? How does one's position in the life cycle affect his perception of himself as a student? How does a learner's time lapse between educational experiences affect his attitude and abilities? In what ways have student support services changed in recent years?

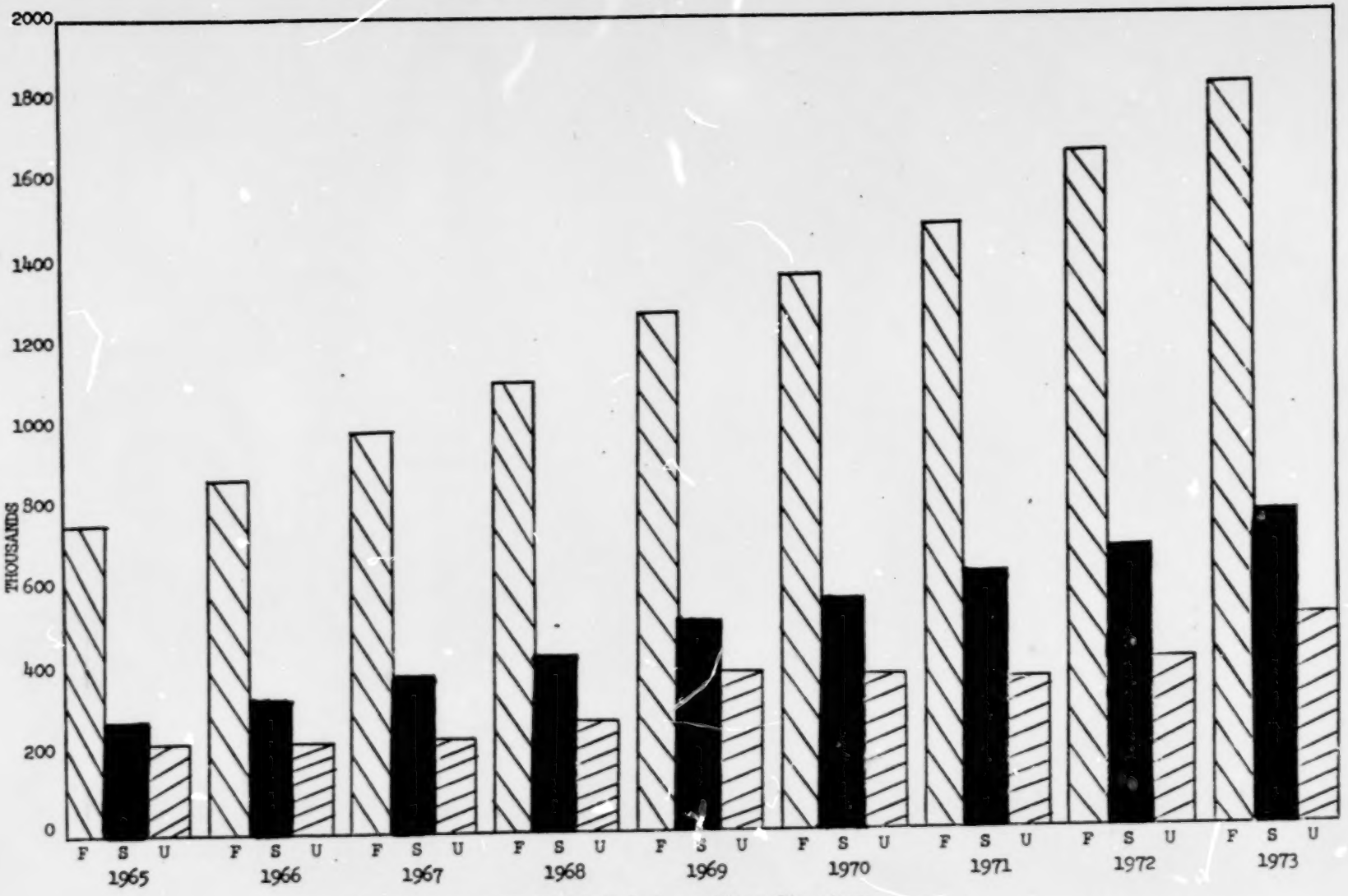
A second general trend in student populations is a change in socio-economic status. More people who go to community colleges have obtained

NUMBERS OF FULL-TIME AND PART-TIME TWO-YEAR COLLEGE STUDENTS



Source: Community and Junior College Directory for the years indicated.

NUMBERS OF FRESHMAN, SOPHOMORE, AND UNCLASSIFIED TWO-YEAR COLLEGE STUDENTS



Source: Community and Junior College Directory

more education. That is, many of the so-called new students are returning people who have previously had education beyond the high school. Many of these are in the so-called unclassified areas, the hobby or general interest courses; some have baccalaureate or higher degrees. Others are people who did not "finish" their education earlier, college dropouts of a previous era. Some have a year or two or more of college and are coming back for refresher courses. In many cases they have returned only to determine if they really want to continue in formal graded education.

What types of student services are needed for this group? Should they be segregated from the remedial or slow learners? Would a tutorial program work well? In general, what different instructional strategies, if any, should be applied to students from rural areas, veterans of military service, prison inmates, elderly persons, foreign students, and the physically handicapped? Experimentation in learning has its own way of creeping in!

A third area of change in student populations is reflected in a modification in educational objectives. Enrollments show a percentage drift away from transfer or academic objectives to vocational/technical/occupational programs and recreational or self-help programs such as small appliance repair, automobile maintenance, income tax preparation and the like, and toward self-development--personal relationships, coping with crisis, and a variety of activities designed to help the individual learn more about himself. An increasing number of courses are being taken without credit, in the evening, by people who cannot by any traditional measure be called "students." And more courses are being taken outside traditional institutional settings.

Here again numerous questions suggest themselves. How many and what types of students might be served through different teaching methods--television, newspapers, independent study contracts? What kinds of faculty load formulas are equitable in non-traditional settings? How would the student population be modified if courses were offered away from the campus?

Further generalizations about the changing character of institutional research can be drawn. One most obvious is that since a smaller percent of your students are planning to transfer to senior institutions, following this category of subjects to determine the grades they earn in successive levels of schooling becomes proportionately less useful. When community colleges were struggling for recognition as genuine collegiate institutions these data were used to gain support. College presidents pointed to tables showing that a student's grade point average differed little whether he studied at the junior or the senior college, saying in effect, "We are as good as they." Now that the community college has been accepted as a genuine institution, there is some question as to what value one can ascribe to follow-up of students to determine GPA. I believe these studies are less than unuseful-- they are pernicious since they give the lie to the contention that the community college is primarily a sorting and screening institution, taking people from high school and weeding out the unworthy, sending the qualified to the baccalaureate institutions. And even though the institutional research director cannot say no to the trustees, presidents, and

legislators who seek this type of information, he can educate them by designing and conducting other, more useful studies of students. Here is where the carefully designed study of educational objectives that are being pursued by the students can be useful. Even the most backward-looking trustee may be convinced if the IR director presents information showing that only half as many students intend transferring now as did five years ago, that only one-third as many are seeking a degree.

Some useful information has been produced by Research Directors who determine student residence patterns. Using post office zip codes in the more densely populated districts and a mapping procedure in suburban and rural locales, one can easily see the areas from which students originate. This can be useful in recruiting because the locations that are sending few students to the college can be addressed directly. Satellite centers can be set up. Sometimes something as simple as advising on transportation service within certain areas of the district can be helpful.

Every Research Director should have at his fingertips the census data pertaining to people in his district. Information on trends in age, educational level, and numerous other demographic characteristics are already available through the efforts of county, state, and national agencies. Using the existing data base, the researcher can structure his own questions. Is our district's population increasing? Where are the new students likely to come from? As minimal a procedure as determining changes in enrollments in feeder secondary schools can assist in answering these questions.

Although admissions, achievement, and placement testing is becoming taboo there is still a place for the use of criterion testing. Working with faculty members to determine a program's objectives in finite terms is basic to selecting or structuring a criterion test which can then be used to determine program content and output. Criterion testing--as opposed to normative testing which determines which students are better than others--leads to studies that are sorely needed in the two-year college. These need not be experiments in the sense of comparing one instructional method with another, but merely studies to determine what has been learned by people who have completed a program, any program--transfer, vocational, or recreational.

We have moved into an era when student dropout is no longer a pejorative term. Students drop in and out repeatedly. They take a full load, drop out for a term to go to work, come back in part-time, go into the service, come out and become full-time students again, and so on. Accordingly the IR Director must take a positive approach to the student who was attending one term but who has not returned. What did the student get from the college that he can use? That is, whether or not he obtained a certificate or a degree, did he carry away something of value? Here is where the greatest opportunity for conceptualizing researcher questions is open to the IR Director who is sensitive to his college's purposes and to the intent of the various program directors. One can begin by going to the catalog page that lists the college's goals and philosophy. How have these been operationalized? When translated into tangible output, have the students really been led to do what the college advertised?

Changing student populations impose their own changes on curriculum. The thumbscrew of a legal requirement for American Institutions, English Composition, Physical Education, and certain other courses and programs has been loosened in many states. Except in cases where students are enrolled in a program with its own specifications, they take what they want. What have been the trends in enrollments by course in your institution in the past five years? One cannot determine this by looking at the catalog. He must turn to the Class Schedule and the enrollments by class section. We have found, for example, that in some institutions a full program of studies in German, Spanish, and French is carried in the catalog whereas the course schedule shows classes offered only in evening sections of Conversational Spanish.

The astute IR Director will see the faculty as a suitable area for study. How do instructors feel about changed student populations? To what extent do they even realize the magnitude of the shift away from transfer programs? Are they using the skills offered by mature students in tutorial capacities? Are they aware of the range of pedagogical devices that may be employed in teaching this student population? Effecting a liaison with two or three natural faculty leaders in designing a study addressing these types of questions can pay large dividends in establishing lines of communication--now typically precarious--between the research office and the faculty. Even something as simple as getting each faculty member to prepare one question relating to what his students have learned in his course can be a useful exercise. Here the IR Director actually functions as a coordinator of a study that the faculty members themselves designed. And one sure way--perhaps the only way--of getting an instructor to attend to the results of an investigation is to involve him in designing the questions to be asked.

In all cases the Research Director must draw interpretations and conclusions. Merely compiling raw data and distributing it will not suffice. Few people read tables and draw genuine interpretations--they see what they want to see. The researcher is well advised to explain what he has discovered. Interpretation after the data are in suggests conceptualization of the problem on the front end, which brings us full circle. Problem conceptualization is necessary for communication to others--including researchers at other institutions. It is basic to instrumentation, sampling, and methodology. It is basic to move into automatic record checking for if you do not know what types of data you are going to want from the records, you have no idea of what to put in. So it all comes down to the Research Director who reads the literature so that he can anticipate trends, who has a grasp of research techniques that he can use to make his own work more respectable and that he can use in presenting his findings to others.

The Research Director is in a position to create his own type of operation. Just as a faculty member may arrange his pedagogical strategies to fit his curriculum intentions and his students, the Research Director can arrange his questions and methodologies to fit the problems at hand. And typically, the Research Director can investigate questions that he sees as being important for institutional functioning. This sounds as though I am ascribing a higher status to the Research Director than he currently enjoys in most colleges. Well, I am. I have been a student of

community colleges for several years and I have not found a group that holds the interests of the entire college in mind while at the same time respecting the type of research necessary to shed light on useful modifications in institutional operations. The trustees are lay people, concerned with budgets and image. Presidents frequently are pulled in so many directions that they do not see the forest for the trees. The deans and other administrative officers occupy themselves with housekeeping. Division and department chairmen straddle a precarious position, wanting to be accepted by both the administrators and the faculty. And the instructors and counselors operate at a level of detail and attendance to daily tasks that precludes their being concerned with questions of institutional trends and impact. You are the group that can translate vague college goals and equally vague student aspirations into useful designs for study.

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